Amendments to the Claims

Please amend the claims as follows:

[c1] 1. (currently amended) A method for performing similarity searching by remote scoring and aggregating, comprising the steps of:

receiving a request by a similarity search server from one or more clients for initiating a similarity search, the request designating an anchor document and at least one search document;

generating one or more SQL commands from the client request;

sending the SQL commands from the similarity search server to one or more remote database management systems;

executing the SQL commands in the remote database management systems ~~to determine normalized document similarity scores~~ using user defined functions; , including computing attribute token similarity scores for the corresponding leaf nodes of the anchor document and a search document using designated measure algorithms, multiplying each attribute token similarity score by a designated weighting function, and aggregating the token similarity scores using designated choice algorithms for determining a normalized search document similarity score;

returning the normalized search document similarity scores to the similarity search server from the one or more remote database management systems; and

constructing a search result and sending the search result to the one or more clients.

[c2] 2. (original) The method of claim 1, wherein the step of receiving a request from one or more clients further comprises generating one or more query commands for identifying a schema document for defining structure of search terms, mapping of datasets

providing target search values to relational database locations, and designating

measure, choice and weight algorithms to be used in a similarity search computation.

[c3]   3. (original) The method of claim 1, wherein the step of executing SQL commands

further comprises using user defined functions contained within libraries of the database

management systems for implementing measure algorithms to determine attribute

similarity scores, weighting functions and the choice algorithms for determining

normalized document similarity scores, the document similarity scores being returned to

the similarity search server.

[c4]   4. (currently amended) The method of claim 1, wherein the step of executing the SQL

commands further comprises:

computing attribute token similarity scores having values of between 0.00 and 1.00

~~for the corresponding leaf nodes of the anchor document and a search document~~

~~using designated measure algorithms;~~ and

~~multiplying each token similarity score by a designated weighting function; and~~

aggregating the token similarity scores ~~using designated choice algorithms~~ for

determining a document similarity score having a normalized value of between

0.00 and 1.00 for the search document.

[c5]   5. (original) The method of claim 2, wherein the step of generating one or more query

commands comprises:

populating an anchor document with search criteria values;

identifying documents to be searched;

defining semantics for overriding parameters specified in an associated schema

document;

defining a structure to be used by the result dataset; and

imposing restrictions on the result dataset.

[c6]   6. (original) The method of claim 5, wherein the step of defining semantics comprises:

designating overriding measures for determining attribute token similarity scores;

designating overriding choice algorithms for aggregating token similarity scores into

document similarity scores; and

designating overriding weights to be applied to token similarity scores.

[c7]   7. (original) The method of claim 1 wherein the step of executing the SQL commands

further comprises structuring the normalized similarity scores by imposing restrictions

on the similarity scores according to a designated user defined function and returning

restricted results to the similarity search server.

[c8]   8. (original) The method of claim 7, wherein the step of imposing restrictions is selected

from the group consisting of defining a range of similarity scores to be selected and

defining a range of percentiles of similarity scores to be selected.

[c9]   9. (original) The method of claim 1 wherein the step of executing the SQL commands

further comprises sorting the normalized similarity scores according to a designated

user defined function and returning sorted results to the similarity search server.

[c10]   10. (original) The method of claim 1 wherein the step of executing the SQL commands

further comprises grouping the normalized similarity scores according to a designated

user defined function and returning grouped results to the similarity search server.

[c11]   11. (original) The method of claim 1 wherein the step of executing the SQL commands

further comprises executing statistics commands according to a designated user

defined function and returning statistic results to the similarity search server.

[c12]   12. (original) The method of claim 1, wherein the step of executing the SQL commands

to determine document similarity scores further comprises computing a normalized

similarity score having a value of between 0.00 and 1.00, whereby a normalized

similarity indicia value of 0.00 represents no similarity matching, a value of 1.00

represents exact similarity matching, and values between 0.00 and 1.00 represent

degrees of similarity matching.

[c13]   13. (currently amended) The method of claim 1, further comprising the steps of:

   receiving a schema instruction from the one or more clients;

   generating a schema command document including the steps of:

   defining a structure of target search terms in one or more search documents;

   creating a mapping of database record locations to the target search terms;

   listing semantic elements for defining measures, weights and choices to be used in
   similarity searches; and

   storing the schema command document into a the remote database management
   system.

[c14]   14. (original) The method of claim 1, wherein the step of constructing and sending the

   search result to the one or more clients further comprises sending a response selected

   from the group consisting of an error message and a warning message.

[c15]   15. (original) The method of claim 1, wherein the step of constructing and sending the

   search result to the one or more clients further comprises sending a response to the

   one or more clients containing the result datasets, each result dataset including at least

   one normalized document similarity score, at least one search document name, a path

   to the search documents having a returned score, and at least one designated schema.

[c16]   16. (currently amended) The method of claim 1, wherein the step of executing the SQL

   commands in the remote database management systems comprises executing one

   coalesced SQL search command to generate all similarity scores of multiple search

documents for maximizing the processing once records have been loaded into memory and minimizing the number of disk accesses required.

[c17] 17. (currently amended) The method of claim 1, wherein the step of executing the SQL commands comprises executing SQL commands in multiple database management systems for increased performance, each remote database management system containing a partition of a total target database to be searched.

[c18] 18. (currently amended) The method of claim 17, further comprising the step of horizontally partitioning the total target database to be searched among the multiple remote database management systems.

[c19] 19. (currently amended) The method of claim 17, further comprising the step of vertically partitioning the total target database to be searched among the multiple remote database management systems.

[c20] 20. (currently amended) The method of claim 17, further comprising the step of horizontally and vertically partitioning the total target database to be searched among the multiple remote database management systems.

[c21] 21. (original) The method of claim 1, further comprising the step of selecting user defined functions for measure algorithms from the group consisting of name equivalents, foreign name equivalents, textual, sound coding, string difference, numeric, numbered difference, ranges, numeric combinations, range combinations, fuzzy, date oriented, date to range, date difference, and date combination.

[c22] 22. (original) The method of claim 1, further comprising the step of selecting user defined functions for choice algorithms from the group consisting of single best, greedy sum, overall sum, greedy minimum, overall minimum, and overall maximum.

[c23] 23. (original) A computer-readable medium containing instructions for controlling a

computer system to implement the method of claim 1.

[c24] 24. (currently amended) A system for performing similarity searching by remote scoring

and aggregating, comprising:

means a similarity search server for receiving a request by a similarity search server

from one or more clients for initiating a similarity search, the request designating

an anchor document and at least one search document;

means for generating one or more SQL commands from the client request;

means for sending the SQL commands from the similarity search server to one or

more remote database management systems;

means for executing the SQL commands in the remote database management

systems to determine normalized document similarity scores using user defined

functions; , including computing attribute token similarity scores for the

corresponding leaf nodes of the anchor document and a search document using

designated measure algorithms, multiplying each attribute token similarity score

by a designated weighting function, and aggregating the token similarity scores

using designated choice algorithms for determining a normalized search

document similarity score;

means for returning the normalized search document similarity scores to the

similarity search server from the one or more remote database management

systems; and

means the similarity search server for constructing a search result and sending the

search result to the one or more clients.

[c25] 25. (currently amended) The system of claim 24, wherein the ~~means~~ similarity search

server for receiving a request by a similarity search server ~~is~~ includes a gateway

connected to a client network, the gateway also connecting to a search manager and a

virtual document manager.

[c26] 26. (original) The system of claim 24, wherein the means for generating one or more

SQL commands by the similarity search server is a search manager connected between

a gateway and a database network interface.

[c27] 27. (currently amended) The system of claim 24, wherein the means for sending the

SQL commands from the similarity search server to one or more remote database

management systems is a database network interface connected to a database

network, the database network connecting to the database management systems.

[c28] 28. (currently amended) The system of claim 24, wherein the means for executing the

SQL commands is the remote database management systems, the remote database

management systems including a library of user defined functions.

[c29] 29. (currently amended) The system of claim 24, wherein the means for returning

document similarity scores is the remote database management systems connected to

a database network, the database network connecting to a database network interface

of the similarity search server.

[c30] 30. (currently amended) The system of claim 24, wherein the ~~means~~ similarity search

server for constructing a search result ~~is~~ includes a search manager and a virtual

document manager within the similarity search server.

[c31] 31. (currently amended) The system of claim 24, wherein the ~~means~~ similarity search

server for sending the search result to the client ~~is~~ includes a gateway connected to a

search manager and a virtual document manager within the similarity search server, the

gateway connecting to the one or more clients via a client network.

[c32]   32. (currently amended) The system of claim 24, wherein the user defined functions are

contained within libraries of the remote database management systems for

implementing measure algorithms to determine attribute similarity scores, weighting

functions and choice algorithms to determine normalized document similarity scores,

the document similarity scores being returned to the similarity search server.

[c33]   33. (currently amended) The system of claim 24, wherein user defined functions are

contained within libraries of the remote database management systems for imposing

restrictions on normalized similarity scores, sorting normalized similarity scores and

grouping normalized similarity scores, the normalized similarity scores being returned to

the similarity search server.

[c34]   34. (original) The system of claim 33, wherein the imposition of restrictions is selected

from the group consisting of definition of a range of normalized similarity scores to be

returned to the similarity search server and definition of a range of percentiles of

similarity scores to be returned to the similarity search server.

[c35]   35. (currently amended) The system of claim 24, wherein user defined functions are

contained within libraries of the remote database management systems for determining

statistics according to a designated user defined function, the statistic results being

returned to the similarity search server.

[c36]   36. (original) The system of claim 32, wherein the normalized document similarity

scores comprise a value of between 0.00 and 1.00, a normalized similarity value of 0.00

representing no similarity matching, a normalized similarity value of 1.00 representing

exact similarity matching, and normalized similarity values between 0.00 and 1.00 representing degrees of similarity matching.

[c37]   37. (original) The system of claim 24, wherein the request from one or more clients for initiating a similarity search comprises one or more query commands for identifying a schema document for defining structure of search terms, datasets for providing mapping of target search values to relational database locations, and designated measure, choice and weight algorithms to be used in a similarity search computation.

[c38]   38. (original) The system of claim 24, further comprising:

a gateway for receiving a schema instruction from the one or more clients;

a virtual document manager for generating a schema command document, including:

a structure of target search terms in one or more search documents;

a mapping of database record locations to the target search terms;

semantic elements for defining measures, weights and choices to be used in similarity searches; and

a database management for storing the schema command document.

[c39]   39. (original) The system of claim 24, wherein the means for constructing and sending the search result to the one or more clients further comprises means for sending a response selected from the group consisting of an error message and a warning message.

[c40]   40. (original) The system of claim 24, wherein the means for constructing and sending the search result to the one or more clients further comprises a gateway for sending a response to the one or more clients containing the result datasets, each result dataset including at least one normalized document similarity score, at least one search

document name, a path to the search documents having a returned score, and at least one designated schema.

[c41] 41. (currently amended) The system of claim 24, wherein the means for executing the SQL commands in the remote database management systems comprises one coalesced SQL search command to generate all similarity scores of multiple search documents for maximizing the processing once records have been loaded into memory and minimizing the number of disk accesses required.

[c42] 42. (currently amended) The system of claim 24, wherein the means for executing the SQL commands comprises means for executing SQL commands in multiple remote database management systems for increased performance, each remote database management system containing a partition of a total target database to be searched.

[c43] 43. (currently amended) The system of claim 42, further comprising means for horizontally partitioning the total target database to be searched among the multiple remote database management systems.

[c44] 44. (currently amended) The system of claim 42, further comprising means for vertically partitioning the total target database to be searched among the multiple remote database management systems.

[c45] 45. (currently amended) The system of claim 42, further comprising means for horizontally and vertically partitioning the total target database to be searched among the multiple remote database management systems.

[c46] 46. (original) The system of claim 24, further comprising user defined functions for measure algorithms selected from the group consisting of name equivalents, foreign name equivalents, textual, sound coding, string difference, numeric, numbered

difference, ranges, numeric combinations, range combinations, fuzzy, date oriented, date to range, date difference, and date combination.

[c47] 47. (original) The system of claim 24, further comprising user defined functions for choice algorithms selected from the group consisting of single best, greedy sum, overall sum, greedy minimum, overall minimum, and overall maximum.

[c48] 48. (original) The system of claim 24, wherein:

the means for receiving a request by a similarity search server from one or more clients is via a secure client network connection; and

the means for sending the search result to the one or more clients is via a secure client network connection.

[c49] 49. (currently amended) The system of claim 24, wherein:

the means for sending the SQL commands from the similarity search server to one or more remote database management systems is via a secure database network connection; and

the means for returning document similarity scores to the similarity search server from the one or more remote database management systems is via a secure database network connection.

[c50] 50. (currently amended) A system for performing similarity searching by remote scoring and aggregating, comprising:

one or more clients communicating with a similarity search server for requesting a similarity search between an anchor document and at least one search document;

the similarity search server processing the similarity search request and constructing one or more SQL commands from the similarity search request;

the similarity search server communicating with one or more remote database

management systems for transmitting the one or more SQL commands;

the one or more remote database management systems executing the SQL

commands to obtain a similarity search result between the anchor document and

the at least one search document by computing attribute token similarity scores

for the corresponding leaf nodes of the anchor document and a search document

using designated measure algorithms, multiplying each attribute token similarity

score by a designated weighting function, and aggregating the token similarity

scores using designated choice algorithms for determining a normalized similarity

search result;

the one or more remote database management systems communicating with the

similarity search server for transmitting the search result; and

the similarity search server processing the similarity search result and

communicating with the one or more clients for transmitting a similarity search

response to the one or more clients.

[c51]   51. (original) The system of claim 50, further comprising a secure client network

connection for transmitting a similarity search request and similarity search response

between the one or more clients and the similarity search server.

[c52]   52. (currently amended) The system of claim 50, further comprising a secure database

network connection for transmitting the one or more SQL commands and the search

results between the one or more remote database management systems and the

similarity search server.